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Coping with diabetic patients in Tamil Nadu
Case study of two traditional siddha practitioners

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Abstract

It is often after a first recourse to biomedicine that Indians turn to traditional medicines, notably to siddha. Siddha practitioners are mostly consulted for joint and bone disorders, digestive and sexual troubles, and skin diseases. However, they are increasingly approached for the treatment of diseases related to metabolic syndrome which have emerged over the past two decades as the result of rapid change in diet and lifestyle.

If siddha doctors who have studied in colleges are better equipped to treat these pathologies thanks to their training which integrates biomedical disciplines and the study of recently developed diseases, traditional siddha practitioners have to develop their own means because they have not inherited any knowledge for treating these diseases which were too rare in the past. Based on the observations of two reputed traditional siddha practitioners, this article intends showing how they adapt to the need of their diabetic patients by calling on their traditional as well as other sources of medical knowledge.

Keywords: nutrition transition, diabetes, siddha medicine, dietary prescription, medication

Coping with diabetic patients in Tamil Nadu

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Introduction:

Type2 diabetes and its allied diseases are little covered in the studies on Indian traditional medicine, despite the increasing number of diabetic patients who consult its practitioners. Some articles deal with the subject, but always with the focus on plants potentiality to reduce blood glucose level (Chacko 2003; Sood 2005). They never question how practitioners treat this unfamiliar disease and its allied ailments that may present a challenge for them, notably for traditional practitioners who inherited their knowledge from ancestors and/or through *kurukulam* system (disciple-guru educational system). These practitioners are traditionally consulted for joint and bone disorders, digestive and sexual troubles and skin diseases for which they have obtained a range of medicines from their family or gurus. However, they have not inherited any knowledge to treat type2 diabetes as it was very rare at the time of their ancestors/gurus. Conversely, doctors who learnt in Indian medicine colleges are better equipped to manage diabetic patients thanks to their education which ‘mimics’ the biomedical system, a term used by Langford (1999) to describe the transformation of ayurveda so as to conform to the ‘scientific’ criteria laid down by the British. They learnt physiopathology and anatomy both in traditional medicine and biomedicine, treatment of diseases recently developed such as type2 diabetes, for which they prescribe medicaments developed by pharmaceutical companies specialized in Indian medicine. The means developed by traditional practitioners to cope with diabetes are of great interest, more particularly when one addresses siddha medicine because its practice is mostly in the hands of this category of healers. As shown in an article on the institutionalization of siddha medicine, this medicine was scarcely taught compared to ayurveda at the School of Indian medicine at Madras established in 1923, and it was only in 1964 that a college was funded for it (Sébastien forthcoming). The feeble institutionalization of siddha medicine is brought out by the figure for January 2005 published by WHO, which fix the ratio of registered non qualified/qualified practitioners at 71.7% for siddha medicine and 22.7% for ayurveda (WHO 2007) (1). The predominance of ayurveda teaching in the School of Indian medicine is explained by the fact that it is extended all over India, while Siddha is prevalent only in Tamil Nadu, and the two systems share diagnostic and therapeutic methods, concepts on physiology, nosology and longevity and a large part of *material medica*.

The physiological concepts of these medical systems are based on the principle that everything in the universe is composed of five basic elements (*pañcapūtam*) (2), ether, air, fire, water and earth. Food and air supply basic elements which, converted into a juice (*racam*), produce successively the seven body constituents (*tāttukkaḷ*), chyle, blood, muscle, fat, bone, marrow and semen; each constituent resulting from the degradation of the precedent. The balance of *tāttukkaḷ*, and concomitantly, of the three *tōṣa* (*vāta* ‘wind’-*pitta* ‘bile’-*kapa* ‘phlegm’) depend on the appropriateness of the diet and proper way of life (Thirunarayanan no dated, Uthamaroyan 2005). Siddha medicine however differs from ayurveda in its extensive usage of metals and minerals, specific medicinal preparations developed from iatrochemistry, and tantric philosophical tradition. The word ‘siddha’ which means in sanskrit ‘realized’, ‘one who is endowed with supernatural faculties called *siddhi*’, refers to groups of tantric yogis who have

acquired supernatural powers through austere ascetic practices (White 2004). The Tamil tradition is based on eighteen *cittarkal* who are considered the authors of manuscripts on medical disciplines (diagnosis and nosology, pharmacopoeia and therapeutics, alchemy, acupressure etc.), on astrology, philosophy, yoga and magic (Ganapathy 1993; Venkatraman 1990). Because of their root in alchemy, tantrism and magic, siddha practitioners are reputed to be dangerous and quacks. If the institutionalization of siddha medicine has permitted its doctors to get rid of bad reputation, traditional siddha practitioners continue to be ostracized. They are accused of ignorance and of practising a false medicine by those who avoid their treatment as well as by siddha doctors who lay claim to the true medical knowledge. During my five-year study on siddha medicine, I met practitioners who may be qualified as quacks like those described by Langford (1995; 1999). Quite often from siddha practitioner families, they have developed interest in their ancestral medicine only after their retirement from government service. After having picked up scanty knowledge from various practitioners and from some courses related to complementary medicines, they open a 'clinic' in which they exhibit diplomas obtained by correspondence courses and siddha icons collected in their family or bought from practitioners (photos of *cittar*; mortar; palm leaves manuscripts; practitioner's portraits) for recreating the link with their family tradition. In contrast, other traditional practitioners well skilled spare no effort to improve the treatment of their patients. The objective of this article is to show how two reputed traditional siddha practitioners, who have not inherited any knowledge for treating diabetes, respond to the need of their diabetic patients by calling on their traditional as well as other sources of medical knowledge. They are very different in their practices as one, Jeyaram, runs a hospital with a large in- and out-patients clientele in a village of Kanniyakumari district, while the other, Rattinammal, who is established now at Madurai, is consulted only by few patients, mainly diabetics. Their differences mirror the heterogeneity as well as the diversity in practice and knowledge observed along this study on siddha medicine. This article is based on my involvement in consultations during several two-week stays at Rattinammal's and also at Jeyaram hospital where my accommodation within has facilitated interactions with hospitalized patients and nurses, and observations of food preparation at the canteen, treatment (massages, distribution of medication and meals, bone setting, varma therapy) and preparation of medicines.

As a preamble, the prevalence of diabetes in Tamil Nadu will be briefly presented in order to justify the focus on the contribution of siddha medicine for managing this disease. Then, from the observations conducted at Jeyaram hospital, it will expose why and for what problems diabetics turn to siddha medicine. The two last chapters will document the treatment provided by Jeyaram and Rattinammal, i.e the medication and the dietary prescriptions given that food is central in traditional medicine as it is considered as a therapy and an ally to strengthen drug efficacy.

Type2 Prevalence of diabetes and its specificities in India

It is observed that type2 diabetes in India is increasing since the 1980s. The first study carried out at the national level in 1972 by the Indian Council of Medical Research (ICMR) estimated that 2.1% of the urban population and 1.5% of the rural were affected by this disorder (Mohan et al. 2008). The data from a second national level survey carried out thirty years later, between 2003 and 2005, conjointly by WHO and ICMR (*ibid.*) indicate the average prevalence of diabetes in urban and rural areas at 7.3% and 3.1% respectively. Regarding Tamil Nadu, Chennai Urban Rural Epidemiology Studies (CURES) reveal a sharp increase in its prevalence: 8.3% in

1989, 11.6% in 1995, 13.5% in 2000 and 14.3% in 2004 (Mohan et al. 2006). Diabetes increasingly affects also Tamil rural population as its incidence rose from 2.2% in 1989 to 6.36% in 2003 (Ramachandran et al. 2004).

The prevalence of type2 diabetes in India is mostly associated with the rise in metabolic syndrome (3) due to the rapid change in food and way of life linked to urbanization. In a study on Tamil Nadu, Allender and his colleagues (2010) have shown that urbanicity favours the increase of non-communicable diseases, notably the supranormal blood pressure and obesity, metabolic disorders that some traditional siddha practitioners take cognizance of in their investigation. Tamil Nadu is one of the Indian States that experience the most rapid economic development related to urbanization; it is estimated by the *Census of India 2001* to have grown at 3.56% annually during the decade 1991-2001. Another factor for prevalence of diabetes is the transition from malnutrition at the fetus stage to high caloric consumption during adult stage which has been proposed by Barker (1995) as an aggravating cause of the risk of metabolic syndrome. According to an estimate by UNICEF and WHO in 2000 (Wardlaw 2004), India accounted for 7.8 million low birth weight babies per year, and other studies (Deaton et al. 2009; Hopper 1999) revealed that the consumption of a large part of its population shifted rapidly to more high caloric foods made up of fat and carbohydrates. Due to the Green revolution programme that promoted the cultivation of rice and wheat to fight famines and under-nutrition, and to the Public distribution system that provides only rice as cereal, meals of Tamil urban and rural population is made up of 80 to 90% and 81 to 98% of rice respectively (*NNS Report*). Millets which occupied an important place in the diet, now find less favour because of their deemed crude taste with the result that their consumption and cultivation have drastically declined (Ramasamy et al 2000). Their decrease in the diet and their replacement by highly refined rice and wheat aggravate malnutrition issues and diabetes due to the reduction of micronutrients and fibers (Mohan et al. 2010). Aware of the consequences of the diet changes on health, siddha practitioners, and notably Jeyaram and Rattinammal who continue to favour traditional foods in their meals, repeatedly advice their patients to change their dietary habits. This aspect will be examined in the last part of the article, but before this, I want to document the reasons for which diabetic patients consult siddha practitioners by turning to Jeyaram Hospital that receives ten to fifteen diabetic out-patients daily.

Who are diabetics who turn to siddha practitioners: study at Jeyaram hospital

Jeyaram has specialized in siddha and varma therapies. Varma therapy which is very widespread in Kanniyakumari District consists of acupressure on energy points for treating bone and joint injuries, muscular dystrophy and neurological disorders and is associated with massages of different types using medicated oils and fresh plants. Jeyaram is fifty years old and learnt siddha medicine from the age of fourteen from his father and grandfather, both very renown *ācān* (practitioners sought by disciples for their extensive knowledge) in this area. After high school, he went to a private college near Nagerkovil where he learnt homeopathy for one year. Due to family problems, he gave up his study and established a small hospital on the vast land of his grandfather. His hospital has now eighty rooms, and possesses a radiography room and a laboratory for basic clinical tests (glycemia, lipids, hematological parameters) that Jeyaram has established 'to reinforce the trust of patients in siddha medicine'. With his wife, Neela, who holds a BSMS degree (Bachelor of Siddha Medicine and Surgery) and is the legal owner of the hospital as he has no diploma in siddha medicine, he receives daily eighty to hundred patients of various

socio-demographic categories. Sixty percent of out-patients and ninety percent of in-patients suffer from fracture and dislocation, and diseases called metaphorically *vāta* because they result from an increase in *vāta* in the body (osteoarthritis and neurological disorders such as paralysis, memory deficiency, epilepsy). Diabetes occurs in about ten percent of his clientele. My observations have led to the classification of diabetic patients into three categories according to their health issues and their expectation. The first group (5-10%) consists of patients not identified as diabetics, a situation very widespread in India where patient awareness of this disease is feeble and preventive measures are deficient (Venkataraman 2009). They come to the hospital with complaint of joint pain, arthritis, dry itchy skin, nausea, tiredness, etc., a range of troubles which are traditionally treated by siddha medicine. Well informed that these symptoms may appear in diabetic condition, Jeyaram/Neela prescribe glycaemia, glucosuria and some blood tests (lipids; hematological parameters) to patients of forty and above, and measure their blood pressure. Although Jeyaram claims to be capable of detecting blood pressure by pulse reading, he uses sphygmomanometer, but less frequently than Neela who admits to being poorly trained in pulse reading at college. According to Jeyaram, he uses sphygmomanometer and stethoscope to reinforce the confidence of his patients and in response to their request as they are now familiar with biomedical tools. Blood sample is analyzed in the hospital laboratory so that patients can be put on an antiglycemic treatment if an abnormal glucose level is detected, conjointly with a medication for treating the primary complaints. Jeyaram/Neela do not treat patients with glycaemia higher than 2.0g/l and urge the patients to consult biomedical doctor. The second category (85-90%) consists of identified diabetic patients who are under biomedical medication and visit this hospital for treatment of diseases related to diabetes, notably osteoarthritis, hemiplegia and diabetic ulcers. Jeyaram/Neela focus on treating the patients for the disease complained of and prescribe antidiabetic siddha drugs to complement biomedical medication. They ask the patients to come back for follow-up, and in the event of a significant decline in glycaemia, they reduce biomedical medication, except for the patients under insulin. Patients are hospitalized depending on the severity of the disease complained of. At each of my stays at the hospital, I observed two to four diabetics with osteoarthritis or hemiplegia and one to two with diabetic ulcers. The third category (5%) consists of diabetics who wish to switch from biomedical drugs to siddha medication. Jeyaram/Neela follow the same practice as previously noted: they give medication only to the patient with glycaemia less than 2.0g/l and reduce biomedical drugs according to the antiglycemic effect of their medicaments. Fear of iatrogenic effects resulting from the long intake of biomedical drugs is the reason for the patients turning to siddha medicine. Side effects are indeed the main criticism leveled against biomedical medication which, on the other hand, is preferred for its supposed immediate relief.

Treatment of diabetics who shift to siddha drugs is a heavy responsibility on siddha practitioners. Jeyaram and Neela are confident in the effectiveness of their anti-glycemic treatment, but they stress that, without adherence to posology and food rules inherent to their medication, its action is reduced. Thus, they never advise discontinuation of biomedical treatment unless they are sure that the patient has enough faith to unfailingly follow their recommendations on medication and diet.

Jeyaram/Neela and Rattinammal medication: a combination of medical systems

At Jeyaram hospital, diabetic patients affected by osteoarthritis, diabetic ulcer or hemiplegia are administered medicines developed by Jeyaram's family as these ailments are

traditionally treated by siddha practitioners. Patients with osteoarthritis and hemiplegia receive siddha medicaments that include medicated oil taken with *kaśāyam* (strongly concentrated decoction) and *cūraṇam* (powder of dried medicinal plants) mixed with honey, and two sorts of massages. External diabetic ulcers are cleaned and anointed with antibacterial medicated oil, and the internal ones are opened by the application of a paste of crushed fresh leaves. These medicines are traditionally used for treating wounds and opening carbuncle or deep infection. On the other hand, for managing diabetes, Jeyaram and Neela use medicaments bought from the representatives of siddha and ayurveda pharmaceutical companies who regularly visit them. Jeyaram justifies his recourse to the market by the fact that he has no time to create his own formula. He also points out that his increased difficulties in finding medicinal plants due to the high urbanization of the region and in recruiting appropriate staff for collecting plants and preparing medicines do not allow him to develop other medicines. Jeyaram/Neela's antiglycemic treatment takes into account the constitution and condition of the patient, and aims at purifying the blood, improving digestion and reducing blood sugar. The practitioners provide antiglycemic tablets from the market selected according to the condition of the patient, and for blood purification and enhancement of digestion, their family medicines which consist of *kaśāyam* that varies depending on the patient's constitution. They record on the patient medical card the finding from pulse reading, laboratory tests results, blood pressure and their medication so that they may adjust drugs according to the therapeutic effect. If consultations are free of cost, patients have to pay for medicines. Medicaments from the market are never sold in their original packing. Tablets and capsules are removed from their wrapping and put in an impersonal packet so that the patients can not differentiate between medicines from the market and those from the hospital. Jeyaram justifies: "Patients have not confidence in the medicaments from the market and thus to ensure that these are taken, it is better to give these medicines in the same way that you give ours." I have indeed often noticed that patients who go to traditional practitioners turn down marketed medicines that they consider as having poor efficacy because they are allegedly made with adulterated ingredients by overheating machines that destroy the potency of the products. These patients, conversely, hold the traditional practitioners' medicines in high esteem because they are supposed to be produced according to the inherited formulae which have built the reputation of practitioner families. Jeyaram, who dispenses some medicines purchased from the market, can yet retain his clientele and maintain his family's reputation by repackaging the commercial drugs under his hospital's name.

Rattinammal, an eighty-six year old siddha practitioner, conversely, does not provide any medicine from the market. She prepares all her medicines with the help of her *śiṣya* (disciple), a retired advocate who wants to learn siddha medicine as he claims 'for the service (*cevai*) of my people'. Rattinammal belongs to a *raja vaittiya* family. She holds the knowledge that she acquired from her mother and grandmother, and later, from a guru, a practitioner well-versed in alchemy. She used to practise at home in her village to the south of Madurai, but after her husband's death, she moved to her daughter's house in the city. She continues her consultation, but her clientele is small, three to five patients per day made up of urban middle class. She never applied for registration. She considers that registration is required only for commercial practice, whereas her objective is to give *cevai* for common people. Despite her age, she is very open to share her experience on medicine preparation, diagnosis and treatment with everyone who approaches her and by participating to conferences organized by NGOs and by associations of siddha students or practitioners. And thus, during one of my stays with her that I had devoted to learn about her understanding of and treatment for diabetes, a disease for which one tier of her

clients consulted her, she took great pains to share her knowledge with me. From the first day of my stay, I was lucky that Rattinammal was approached by a new patient, a woman with a diabetic ulcer. The treatment of this woman and some other diabetics has largely substantiated her discourses.

Rattinammal, like Jeyaram, did not inherit drugs for treating diabetes. Twenty years ago, when she lived in her village, she decided to develop formulae for treating increasing number of diabetic patients who approached her. She consulted several books, especially those attributed to Pōkar, the famous alchemist-*cittar* that she venerates, to inventory and study plants specified for *nīrilivu* (diabetes). Gradually, after testing their effect on patients, she developed a *cūranam* she called *cakkarai cūranam*. This *cūranam* is made of thirty-one ingredients among them thirteen are mentioned by other practitioners and used by siddha pharmaceutical companies for their antiglycemic properties. Rattinammal prescribes *cakkarai cūranam* with two other *cūranam*, one to purify the blood and the other to regulate function of the ‘five king organs’ (*kiṇruppācān*). She explains:

Sugar is due to rise of *pitta* when the liver fails. Subsequently, pancreas fails and all the king organs (*kiṇruppācān*), lung, heart, liver, pancreas and kidney are affected. When these king organs work in cooperation then no disease affects the body, but if one fails, all will fail. That is the reason I give medicine, not only for sugar, but also to cure the five organs and to purify the blood. If the patient has BP (high blood pressure), cholesterol, kidney problems, he will be cure by this treatment.

To increase the efficacy of her *cūranam*, Rattinammal adds a small quantity of what she called *muppu*. *Muppu* is the mystical substance of the *cittarkal* comparable to the philosopher’s stone of the western alchemists. Its formula is not known, but traditional Siddha practitioners involved in alchemy proudly claim that they can make *muppu* and show their product as proof of their great knowledge. They attribute to this substance which contains *pūnīr* (earth-water), a salt collected on full moon night from certain secret places, a catalytic power to purify metals and minerals used in the preparation of drugs against degenerative diseases. Rattinammal’s *muppu* is her own innovation because she laments that she is too old to collect *pūnīr* for preparing her mother’s *muppu*, which she admits to be more in keeping with tradition, but she considers hers as very effective.

In addition to medication for diabetes, Rattinammal provides various medicines from her family to treat certain diseases that she associates with diabetes after reading the pulse, examining and questioning the patient. She explains:

Sugar disease is rarely alone. It is often associated with *vāta* or with *kapa* or with *vāta* and *kapa*. So to treat sugar patient, I check his condition and I treat sugar disease, *vāta* and *kapa* separately. If I treat only sugar, without treating *vāta* and *kapa*, sugar disease will not be cured.”

Her explanation reflects the reputation of Indian medicine practitioners for their holistic approach towards the disease and their sensibility to take into account its complexity of in the treatment. The psychological disposition of her patients is also an aspect that she pays a particular attention to. She uses Bach flower remedies which are supposed to act on the mental and emotional states. She discovered this therapy when, at the age of 20, she attended a lecture given by a disciple of Dr. Bach. The method she uses combines principles of siddha medication which highly favours the mixing of medicinal ingredients for enhancing efficacy, and of homeopathy:

she impregnates globules contained in a small vial with four-five different flower essences. Although Rattinammal knows the Western origin of Bach remedies, she considers it as an integral part of siddha medicine, because both medical systems use flowers and pay attention to patient's psychological disposition.

Rattinammal has also perfected an elaborate treatment for diabetic ulcers using a combination of ingredients to each of which she assigns specific properties. I witnessed her treatment of the diabetic ulcer that had infected the toe of a patient who was advised by her doctor to have it removed. The fear of amputation as I have often noticed is the main reason for which patients turn to siddha practitioners. First, Rattinammal disinfected her hands with a juice extracted from fresh leaves and cleaned the wound with the same extract. She then prepared an ointment by mixing with *nīm* oil (*Azadirachta indica*, antiseptic and antidiabetic), copper sulfite and alum to destroy dead skin, a *cūranam* to promote flesh regeneration, and another powder to improve regeneration of blood vessels, tendons and nerves and to inhibit pus formation. She filled up the wound with it and bandaged the toe. After ten days of the same treatment, when she noticed the improvement of the wound, i.e. when flesh was well irrigated, she applied *raṇa kaḷimpu*, an ointment of her mother used to treat wounds and to which Rattinammal added one plant thought to have antiglycemic properties. And two days after, she gave *raṇa kaḷimpu* to the patient for continuing the treatment at home till the wound was completely healed. Rattinammal prescribed her antidiabetic medication in order to complement patient's insulin treatment and to avoid any ulcer formation, and also two vials of Bach flowers: one to remove her fear of amputation and the other to instill confidence in her treatment.

Rattinammal is very proud of her knowledge of the medicinal plants that she claims to be capable of treating many diseases with. Like Jeyaram and Neela, she emphasizes that in the case of diabetics, her medication needs the cooperation of the patients and notably their strict observance of her dietary prescriptions. Tirelessly and with authority, Rattinammal as well as Jeyaram/Neela try hard to convince their diabetic patients to adopt healthy food and life habits.

Diet and healthy food habit: a fundamental therapy allied to medication

The relation between food and health is expressed in a Tamil adage 'food is medicine and medicine is food', that siddha practitioners often quote to emphasize food intake rules. In siddha texts, foodstuffs are classified according to various properties (hot/cold/wet/dry; heavy/light; taste, potency) which condition the character, constitution and activity of the individual (Nitcher 1986, Uthamaroyan 2005). Nevertheless, dietary prescriptions provided by Jeyaram/Neela and by Rattinammal are little individualized and use food concepts of siddha medicine as well as of western dietetics. These practitioners advise diabetics to avoid sugar and sweets and to reduce drastically intake of oily items. They urge them to replace rice partly by millets, sorghum, and whole grain wheat, and to increase their intake of pulses, green leaves and vegetables. They also recommend certain vegetables such as bitter gourd and spices such as cumin, turmeric and *asa foetida* which are used in medicines for their antiglycemic proprieties. They forbid consumption of meat because of its character of heat that increases *pitta* in the body, which is already high in diabetic condition, but encourage consumption of all dairy products for their cooling property which lowers *pitta*. Unlike nutritionists, they do not draw menus in which weight, size and number of items are clearly stipulated. Their prescriptions follow the rules of *pattiyam/apattiyam* (do/don't). The interest of these prescriptions is to strongly encourage intake of traditional foods which are rich in micronutrients and fibers and help to prevent and control diabetes as well as to

fight malnutrition which affects a large part of Indian population whatever the socio-economic status (Singh 2007). Nevertheless, these recommendations are not often followed by patients, and practitioners must use of a lot of arguments to convince them on the beneficial effect of the food on their health. But patients often justify their non-compliance by citing the unavailability and high cost of certain ingredients, bad taste and lack of time as reasons: 'Only Rice is available to us and it costs only 2 rupees per kilo (in public distribution system); how can I buy *kampu* or *ragi* (pearl, finger millet), dal, vegetables?' 'Doctor, we not pay for vegetables, pulse, milk, they are so expensive...' 'It is too long to prepare ragi (finger millet), and it is difficult to bring it to the office' 'I have too much work, how can I manage to prepare two kinds of food, one for me and another for my children? My children want to eat only rice, they don't like vegetables. They refuse to eat bitter gourd; they say it is too bitter'. If the defense is understandable by the high inflation which affects pulses, vegetables and dairy products in particular, the change in taste of the young and the lack of time of working women for preparing food, the practitioners conversely are more critical of patients' behaviour. As Rattinammal says:

People now have become very lazy. They do not want to make any effort to change their habits. They want to eat whatever they like: rice, large amount of rice with meat, fish, oily snacks... They do not want to change anything. They take medicines and continue eating as before. But with our medicines, this is not acceptable; they work only with appropriate diet.

The non-compliance with prescription is an important issue for managing diabetes in India. A study on biomedical field conducted in 1999 quoted by Venkataraman and her colleagues (2009) points out that only 30% of diabetic patients are compliant with medication, 37% with dietary prescription. Therefore, if dietary prescriptions are important tool for siddha practitioners due to their crucial role in therapy, they may be a drawback if the patients do not respect them. One traditional siddha practitioner who has a large clientele confined to me that, although she has developed a formula for reducing glucose level, she refuses to treat diabetics because of their reluctance to change their food habits. But her attitude is an exception. Like Rattinammal, she has no means to force the patients to follow her recommendations. Jeyaram and Neela conversely take advantage of the hospitalization of diabetic patients to educate them about the food pattern that they should follow. During the hospitalisation which is long, one to several months, patients must eat the food prepared in the hospital canteen. The preparation of meals strictly adheres to the prescriptions of the practitioners. Thus, the diabetic patients get accustomed to the change in composition and taste and practitioners expect that, by observing an improvement of their health, they will be encouraged to adopt their new dietary pattern and will be more confident of siddha treatment.

Conclusion

The comparison of practices of Jeyaram/Neela and Rattinammal has shown an important heterogeneity in regard to the personality of healers, the situations in which they work, their ambitions, and their endeavour for recognition of their medicine. Their differences illustrate the diversity of practices that I observed in about twenty other practitioners. Some, who run large hospitals like that of Jeyaram/Neela, use similar biomedical diagnostic methods and take recourse more or less to products from pharmaceutical companies to complement their traditional drugs,

inherited as well as developed by them. In a way, their use of biomedical tools and marketed Indian medicine drugs may remind the practice of institutionalized siddha doctors. Others share some characteristics of Rattinammal, such as her involvement in alchemy and in the transmission of siddha knowledge, her holist approach to patients' diseases, her use of non conventional therapies and her medical ethic entirely turned to the care of patients.

The use of biomedical tools in Indian medicine has been frequently underlined in studies and often explained as a consequence of the hegemony of western medicine (in books of Leslie 1992 and Leslie and Young 1998; Langford 1995). Despite his large clientele and the faithfulness of his patients which is attested by the medical records, Jeyaram often complains about the strong attraction exerted by biomedicine on his patients and their decreasing interest in siddha medicine. Quite often, he receives patients who come to him only after undergoing a long course in biomedicine. He has not only to treat diseases that are sometimes in an advanced stage, but also to heal them quickly in order to avoid the patients' dissatisfaction which may further discredit siddha medicine. This is in this difficult context of competition, that Jeyaram's use of biomedical tools and of some strategies to strengthen his patients' belief must be understood. Unlike Rattinammal, he never uses components related to alchemical knowledge, magic, non conventional treatment which might brand him as a quacks. The fact that he has no formal diploma to practise siddha medicine may explain his prudence to avoid risks and critics which could ruin his reputation. The context in which Rattinammal practises is very different. She has no expectation of material benefit and her limited middle class patients seek her because of their particular attraction towards Indian traditions; her age, her family background as well as her practices being the testimony of her roots in tradition. Therefore, by their diversity of practices and knowledge, siddha healers attract a large variety of patients who approach them either with pragmatic or ideological motivations. Thanks to their capacity for adaptation, their flexibility to use all means that may improve their treatment, their knowledge regarding a wide range of ailments notably chronic diseases, traditional siddha practitioners play an undeniable role in health care. Although my position as an anthropologist has not allowed me to evaluate the efficacy of their medication on diabetes, I have observed the rapid result of their medicinal products on the treatment of diabetic ulcers and on the relief of osteoarthritic patients. Their awareness of the risks related to diabetes that I have noticed during consultations confirms their important contribution in the care of this disease, a disease become a major public health issue in India as well as in the world for its morbid consequences.

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Notes

- (1) Indian medicine practitioners were registered in 1933. Those trained in colleges (qualified) were classified in class A while the non-institutionalized practitioners in class B (literate) and C (illiterate). The registration of non-institutionalized practitioners was stopped by the notification No. V. 26211/4/1976 dated 10.9.76 of the IMCC Act of 1970 but the Tamil Nadu board of Indian medicine continued the registration until the central government asked it to cease this illegal practice (Sébastien forthcoming).
- (2) For Tamil words from Sanskrit, this article uses Tamil transcription by following the rules defined by the Tamil Lexicon, University of Madras (1982). The plural form is *-kaḷ* (*kkaḷ* after vowel; *ñkaḷ* after consonant m, *kaḷ* after other consonants).
- (3) Metabolic syndrome is a set of risk factors that includes: abdominal obesity, insulin resistance, dyslipidemia, hypertension, increased risk of clotting, pro-inflammatory state. People with this syndrome are prone to develop cardiovascular disease and/or type2 diabetes (Gogia et al. 2006). Regarding Indian specificity see also Misra and al. (2005).

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